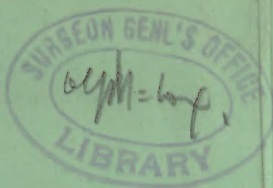


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REVIEW ON MODERN DERMATOLOGY.

BY

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1. *Lectures on Eczema and Eczematous Affections.* By ERASMUS WILSON, F.R.S., F.R.C.S., Prof. of Dermatology in the Royal College of Surgeons of England. London : John Churchill & Sons, 1870.
2. *Journal of Cutaneous Medicine and Diseases of the Skin.* Edited by ERASMUS WILSON, F.R.S. London : John Churchill & Sons.
3. *Traité des Affections de la Peau.* Par le Dr. E. BAUDOT, ancien Interne de l'Hôpital Saint-Louis. D'après les doctrines de M. Bazin. Paris : F. Savy, 1869.
4. *Annales de Dermatologie et de Syphiligraphie.* Publiées par le Docteur A. DOYON. Paris : Victor Masson et Fils.
5. *Lehrbuch der Hautkrankheiten.* Von Dr. ISIDOR NEUMANN, Docent an der k. k. Universität in Wien. Wien, 1870. Wilhelm Braumüller.
6. *Archiv für Dermatologie und Syphilis.* Herausgegeben von Dr. HEINRICH AUSPITZ und Dr. FILIPP JOSEF PICK. Prag.
7. *The American Journal of Syphilography and Dermatology.* Edited by M. H. Henry, M.D. New York : F. W. Christern.

SKIN diseases have long attracted the especial attention of physicians, and treatises upon this particular branch of medicine, representing the views of the special observers of other times and their schools, have come down to us in greater number than other specialties of equal rank in modern medical science can boast. That dermatology has such a past, however, has been its greatest misfortune; for the accumulated errors of successive generations of writers, skilled in nothing deeper than surface pathology, and of theorizers, whose ardor has been shown rather in defending doctrines, the products of their imagination, than in studying the natural history of disease, have been an incubus upon its progress. Were the literature of skin diseases previous to that of the last half century absolutely annihilated, and with it the influence it has exercised upon that of the present day, it would be an immense gain to dermatology, although much of real value would perish. Indeed there seems to have been something unique in the method followed by nearly all writers on these diseases until recently, which prevented all independent observation, and made a

description of any single affection, untrammelled by comparison with that of other authors, an impossibility. Another peculiarity, which has characterized its whole history, has been the apparent inability to study them without the aid of a so-called system of classification, which seems to have been held as essential to their interpretation as the Rosetta stone in the study of the unknown character-writing; and each successive writer has given a large share of his work to the correction of those which have preceded, or to the invention of a new one. A clear, fresh book on skin diseases, devoted to close description of their appearances and course, with a record of the existing knowledge concerning their anatomy and etiology, and containing a therapy based on large observation alone, unmuddled by theories, a book such as has been written about the affections of all other organs, is a rare thing in the past or present of medical literature. In these days especially, when many times too many books are written in all departments of medicine, it would be better for her if no man were allowed to write another upon skin diseases, except he had something to communicate new or better than what has already been said by others. This special fitness can be attained only by him who has had large and long-continued opportunities for observing all the diseases about which he writes, who is thoroughly acquainted with recent advances in pathology, general and special, who is familiar with the opinions of other observers of all times and countries, and is able by the test of a wide experience to select the false from the true, so that error shall be no longer perpetuated. Such a work only a great master in dermatology can write, and of such a century sees but few.

The separation of diseases into distinct divisions on anatomical grounds, for purposes of improvement in methods of study and treatment, and the recognition of such division of labour under the name of specialties by the profession throughout the world, has largely stimulated the production of books, and for two reasons. The consequent creation of special departments in connection with all large hospitals and schools, and the reputation for superior skill in treatment which soon attaches to those devoted to exclusive practice, diverts the management of these diseases almost wholly into the hands of a few, and thus gives them enlarged opportunity for observation, which by sufficient cultivation yields, to those properly fitted to receive, a knowledge worthy of publication; but it also leads men, mainly desirous of success in practice, to write themselves into notice of the public in connection with their specialty. With these increased advantages for acquirement, it is evident that we have a right to expect better treatises on special subjects than ever before, and that, with competent observers in many parts of the world, there should be no demand for the book-work of the latter class.

Thus, of the many books on skin diseases, published within the last few years, some are of little value except to their authors as advertisements, as they contribute nothing to our previous knowledge that is reliable; others are largely controversial in character, written in defence of personal theories respecting the pathology or nomenclature of some particular disease; while but one or two only contain the recorded observations of master-minds in the whole field of cutaneous medicine. But if we thus raise the standard of authorship, and limit the making of books to these few great leaders in dermatology, it may be objected that all recent advances in this field would be given to the general medical world only at long intervals through the press, or only gradually spread outwards from their lecture-

rooms and clinics. But this objection is no longer valid, if indeed it ever were, and the man who has a new theory with regard to the cause or nature of some one affection, or the student who has made honest and trustworthy investigation in connection with the anatomy or treatment of another, can no longer, in these days of numerous periodicals, make his desire to announce these particular views to the world the excuse for publishing a book covering the whole field of dermatology, which must be in great part made up of the opinions of those whose writings are accessible to all first hand. Moreover, the establishment of special journals of dermatology in all the great centres of medical science, within the last two or three years, has afforded an open channel of communication between the observer in this department and the profession generally, through which opinions and theories, or the results of accurate investigation, however general or limited in their scope, may be made known without delay. Thus is furnished opportunity to the general practitioner of making known important information, which might otherwise be kept from the public; to the young specialist, of publishing monographic chapters of exceeding value, the results of skilled and well-directed investigation; and to the already famous and acknowledged master, of announcing changes in views or additions to observations previously recorded in his books. Such has been the nature of the contents of these journals of cutaneous medicine in Germany, France, Italy, Great Britain, and America, and although they are of very unequal value when compared with each other, they have all contributed somewhat to the advance of dermatology. Another new feature in the literature of cutaneous diseases is the publication of separate books on single affections, mainly intended by the authors, although issued independently, as chapters of a future and complete work on the whole subject. Some of these have swollen to a monstrous size, and if pricked of their verbiage, personal conceit, and whims, and stripped of their ridiculously arbitrary and undemonstrated theories, would dwindle to the reasonable limits which a simple record of facts and justifiable deductions alone require.

In connection with the critical examination of the books mentioned at the head of this article, or of other recent works on skin diseases, it may be well to consider, even in a brief manner, the most striking characteristics of the respective schools they may serve to represent.

In England, dermatology has until the last decade remained almost unaltered from the time of Willan, its founder, though subject to periodic changes from the ever-fluctuating doctrines of Mr. Wilson. Few writers in medicine have ever produced so many editions as he, certainly no one as many so unlike; and this variation consists mainly, not in the constant and rapid development and announcement of new facts, but of fancies. Every one is familiar with the system of classification of Willan, and it is wonderful to trace the influence which he has exerted upon nearly all who have since written upon this class of diseases; for so great was the step which he took in his time in individualizing symptoms and appearances, and in clearing away the rubbish which centuries had heaped upon the study of these affections, and so easy to follow was the method he introduced of classifying disease according to its external and momentary aspect alone, that his views until recently have been almost universally accepted, as if so great a progressionist could not possibly have founded a false system. Now Mr. Wilson has attempted to found, among others, a classification upon an anatomical basis, according to the particular part of the skin affected, as if diseases of the integument were confined to any one struc-

ture, and did not often extend to all its tissues, so as to make it impossible to determine which are the most affected. We find accordingly that although he has divided cutaneous affections into two primary groups, namely, diseases affecting the general structure, and diseases affecting the special structure of the skin, still all the common and important diseases are arranged after the method of Willan under the following groups: exanthemata, papulæ, vesiculæ, pustulæ, bullæ, and tubercula; and this, too, after admitting that erythema, lichen, eczema, impetigo, and psoriasis not only occur in conjunction with, but are really convertible into each other. The absurdity of such an arrangement seems apparent to himself, for he states that although the above diseases "are in their fully developed state strikingly dissimilar, yet in their pathological nature they may be and are essentially the same;" as if it were not pathology which should guide us in the study and classification of disease. To classify diseases of the skin according to the form of eruption they may present, or even to group them upon the same plan, although their pathological unity be tacitly admitted, for the sake of rendering diagnosis easy or of conforming to ancient custom, is only perpetuating error. There is no such thing, generally speaking, as a papular disease, or a vesicular disease, or a pustular disease, as such alone. Many of the affections to which the skin is liable may exhibit at some period of their course, or be characterized by, maculæ, papulæ, vesiculæ, pustulæ, or squamæ. It is because such a narrow definition is adopted that he is obliged to call the same individual pathological process on one day strophulus, on another pityriasis, on another lichen, on another eczema, on another psoriasis, and on another impetigo.

But Mr. Wilson has also founded other systems quite unlike this, so that it is impossible to say precisely which of his several plans he himself prefers, or that they may not all be discarded to-morrow for a new one. The very latest proposed occupies a prominent part in the last of his publications, which stands first in the list of works above given. In this, after a review of the systems of others, he is led to believe, in consequence of the fact that eczema occurs in the ratio of nearly thirty-four per cent. of all skin diseases, or as he chooses to express it, "the practitioner who knows eczema alone, already knows one-third of all the diseases of the skin" (although he has previously stated that they are eighty in number), that it should be made the standard of cutaneous medicine, and that a classification founded on this idea would be practical. Hence the "clinical classification became a necessity of his organization." It arranges cutaneous affections under the following groups: A.—1. Eczematous. 2. Erythematous. 3. Pemphigous. 4. Furunculous. B.—5. Neurotic. 6. Angiomatous. 7. Hæmatic. C.—8. Allotrophic. 9. Alphous or leprous. 10. Strumous. 11. Carcinomatous (or karkinomatous, as he spells it). D.—12. Zymotic. 13. Syphilitic. 14. Elephantoid. E.—15. Chromatopathic. 16. Dermophytic. 17. Onychopathic. F.—18. Trichopathic. 19. Steatopathic. 20. Idrotopathic. G.—21. Traumatic.

"You will observe," he says, "that we have divided our twenty-one groups into *seven* collective groups or families, of which A represents simple inflammation of the skin; B, affections of component parts of the skin; C, disorders of nutrition; D, blood-poisons; E, affections of epidermis; F, affections of the appendages of the skin; and G, injuries of the skin. The groups are all pathological, and several enjoy the advantage of being homœopathic."

Now such an arrangement is wholly unscientific. It is a jumble of all sorts of systems, in which superficial resemblances unite diseases otherwise

entirely unlike; in which affections closely allied pathologically are widely separated; and in which arbitrary and unsubstantiated theories of causation play an important part. The writer of this article has within the last seven years had occasion to notice critically two of the editions of Mr. Wilson; and yet, and notwithstanding this very late announcement, feels quite unprepared to represent the existing status of his creed. Nor is it alone in respect to systems of classification that this seeming spirit of dissatisfaction with himself shows itself. No writer has done so much to increase the unfortunate confusion which exists in connection with the nomenclature of cutaneous diseases as Mr. Wilson, and he has never let slip the opportunity of introducing new and of altering old names in his writings. In his latest editions, and in the numerous articles published in his journal of cutaneous medicine, this propensity to invent long Greek titles, or to hunt up others forgotten for centuries, and never used with any definite meaning, amounts almost to a mania. To put together his views published from time to time upon many points would form a very interesting chapter in medical literature; and among the most amusing of these exhibitions, and a fair illustration of his whimsical mutability, is that afforded by the list of names adopted by him at different times in connection with psoriasis.¹

In his volume on Eczema we find that he recognizes six essential varieties: erythematousum, papulosum, vesiculosum, ichorosum, pustulosum, squamosum; and ten sub-varieties: marginatum, fissum, mucosum, scabidum seu crustaceum, œdematosum, tuberculosum, spargosiforme, sklerosum, verrucosum, neurosum; the former based, as will be seen, on stages of development of the efflorescence. Now the folly of this fashion of some dermatologists, of dividing one simple disease into many varieties according to the particular form it may assume at various stages of its progress, cannot be too strongly insisted upon. It is the chief cause of the imaginary difficulties which surround the study of this branch of medicine, and only gives rise to confusion. Each new writer seems to think it his duty to invent new names for new varieties, instead of directing his efforts, where they are most needed, towards progress in pathological anatomy and treatment; apparently ignorant of the great truth that perfection in all classification is simplicity. Under psoriasis, for instance, we hear of *P. punctata*, *guttata*, *alphoides*, *nummularis*, *scutellata*, *orbicularis*, *annulata*, *circinata*, *vulgaris*, *gyrata*, *circumscripta*, *diffusa*, *confluens*, *discoidea*, *centrifuga*, *imbricata*, *figurata*, *inveterata*, and so on indefinitely. Now it would be quite as sensible to take a photographic picture of every individual case, and label it according to the surname of the patient as a distinct variety, as to make use of the above system of nomenclature. There were never two cases of psoriasis or eczema exactly alike, and in every case we may find several of the appearances present at the same time which have been described as separate varieties, or else succeeding each other, so that we neither know which of the names is the most appropriate, nor but that our choice to-day may be a misnomer to-morrow. Or look at the terms employed by Wilson in his work intended expressly for students in the chapter on Pigmentary Affections: *chromatogenesis*, *melanopathia*, *melanoderma*, *melasma*, *xanthopathia*, *cyanopathia*, *achroma*, *leucopathia*, *leucoderma*, *leucosma*, *fuscedo cutis*, *nigredo cutis*, *dyschroma*, *flavedo cutis*, *maculæ lutæ*, *lentigo*, *ephelis*, *chloasma*, *morphœa*, besides a great number of specific names.

¹ See Boston Medical and Surgical Journal, May 6, 1869.

Now this may be a fine way to display one's knowledge of Greek and Latin, it certainly is no way to teach the rudiments of dermatology. The terms really needed in the nomenclature of these affections are very few, and if no more were employed than distinct processes exist, their number would be still less. What we would insist on is the abandonment on the part of dermatologists of the idea that the affections of which they write are in any way an exception to diseases in general with regard to nomenclature, or that each day's change and the difference in appearance of two contiguous or remote square lines of skin require a distinct label in a foreign tongue.

Not only does Mr. Wilson exaggerate the importance of mere stages of metamorphosis of one and the same individual pathological process, by elevating them to the rank of varieties, but he goes further, and separates mere differences in the forms of this affection into distinct diseases, viz., lichen and impetigo. It cannot be said that he was the first to do this, as it is a very old error in classification, but that he should be the last to perpetuate it, in view of our present knowledge of the protean character of eczema, and of his own previously expressed opinions upon this subject, is to be regretted. Of the former, lichen, he gives ten varieties, but of impetigo he has very little to say. If we look for a strict definition of them, we find him saying in his last work: "Eczema, as we have seen, is characterized by several pathological lesions, of which two are papulation and pustulation. Lichen and impetigo represent these latter lesions when they are present alone—lichen is a papule, and impetigo a pustule." Now, with the exception of the rare affections described by Hebra as lichen exudativus ruber and lichen scrophulosorum, it is doubtful if there is really any distinct affection of the skin which deserves this name, and which might not be more correctly placed under the head of eczema or elsewhere. Of his ten varieties, the greater part are merely forms of eczema. Even his own opinions, elsewhere expressed, show how impossible it is to keep these affections apart.

"The difference between eczema and lichen," he says, "is not one of cause, but of manifestation—the difference of manifestation being chiefly due to difference of temperament and sex. Eczema is never present without lichen, and only becomes eczema when the vesicles are in excess over the papules. Eczema may also have a mingling of the pustules of impetigo, or the ichorous contents of its vesicles may become purulent; in either case it ceases to be simple eczema, and is then eczema impetiginodes. Impetigo is, in fact, a pustular eczema, just as eczema is an ichorous lichen, and the latter a papulous erythema."

In connection with the assigned causes of eczema we find the same looseness of reasoning which characterizes the consideration of this topic in all Mr. Wilson's writings. Among those mentioned as capable of giving rise to it are twenty-five of the most dissimilar character. This list is in addition to the well-known exciting causes, cold, heat, irritants, etc., which satisfy most other dermatologists. A sample of the same kind of reasoning may be found in his chapter on acne in his general work, where he assigns its predisposing causes in one hundred cases as follows: "Rapid and overgrowth; congenital weakness; anæmia; deficient and improper diet; errors of air, exercise, and general hygiene; nervous debility; mental application and study; scarlatina; fever; deranged menstruation; eczematous diathesis; rubeola; dyspepsia, rheumatism, chill, syphilis, variola, vaccination, strumous diathesis, hemorrhage, abscess, depressing climate, and climate of India." The very fact that so many and so various

causes are assigned for the production of one pathological process shows conclusively that they were not causes, only coincidences, the number and variety of which could be indefinitely increased by the history of another and another hundred cases. It would be just as logical to put down fractured thighs on this list, because one might go into the wards of a hospital and find a patient with this injury whose face was covered with eczema or acne.

There is little else in the volume on eczema worthy of special notice here, as, with the exception of the change in spelling and theories, which we may confidently expect in his successive publications, there is little that is fresh and may not be found elsewhere in his general works.

These traits in a writer who has played so important a part in dermatology, and who was elected to a professorship lately created in the Royal College of Surgeons, are perhaps worth this somewhat disproportionate notice, as, not only in his own country, but in ours as well, up to within a short time, he has been regarded as the best or only teacher in this branch of medicine. The translation of Hebra's work by the Sydenham Society, and the writings of Hillier and Anderson, his pupils in England, have, however, within the last few years, changed professional opinion in respect to these matters, and made known the simplicity and depth of the great German master's teachings. The more recent publication of the independent works of Fox and Hutchinson has also contributed largely to introduce these broader views on dermatology, and although, taken as a whole in its national aspect, it can be hardly said to possess a very distinctive character, it has excellent observers and writers of value in the gentlemen above mentioned, and in Dr. Fagge, the translator of Hebra.

The recent Lettsomian lecture of Dr. Fox, on eczema, for instance, is in marked contrast to the monograph we have been considering, inasmuch as in sixty-eight pages there is to be found an excellent and sufficient description of the natural history of the disease, with some very judicious rules for treatment, admirable in minuteness of detail, and for discrimination as to time and method of its application. Room is found also for quite a long discussion of the correctness of Willan's doctrine with regard to the nature and lesions of eczema, and of Hebra's well-known interpretation of it, as well as of his own opinions concerning them. Dr. Fox seems to have given hardly a fair representation of the teachings of the latter, however, and to lay far too much stress upon the individuality of Hebra's varieties, making the author apparently believe just what he, in fact, mainly labours to disprove—that these so-called varieties have any distinct existence, except in the artificial schemes of various writers. Dr. Fox shows also, in connection with the morbid anatomy of the disease, that he is familiar with the labours of the new school of dermatology, as we may call it, which has its home, as we shall see, in Germany.

The establishment of journals specially devoted to dermatology, within the last few years, marks, as we have said, a new era in its literature, and to these we should naturally look for the record of its latest and highest progress. The *Journal of Cutaneous Medicine* was founded in 1867, by Mr. Wilson, and was continued in quarterly numbers until the end of 1869, when it ceased. Later, in the past year, it was resumed under the editorship of Dr. Purdon, of Belfast, considerably diminished in size. It has been, on the whole, a valuable publication; for, although characterized by a preponderance of Mr. Wilson's writings, and tinged rather too uniformly by editorial prejudice and egotism, it has also contained many

original communications of value from other English dermatologists, and in its "Miscellaneous Memoranda" has presented quite a general, though brief, epitome of the state of dermatology in other parts of the world. It has, moreover, always been entertaining, even in parts not particularly instructive. The later numbers, under its new management, it seems to us, have fallen off materially from its original standard of merit.

In the modern French school there has been little progress or change during the past fifteen years. The works of Hardy and Bazin, its foremost men, already ten or more years old, are still a fair representation of its peculiar features and of its scientific merit. Any change in its tenets within that period has been mainly in the direction of exaggeration of its most striking faults. It has done little of late for the etiology or pathology of skin diseases, and is a poor field, we judge, for the special student of dermatology in comparison with some other European schools. The general stagnation which now so long broods over the *École de Médecine*, rests also upon the *Clinique* of Saint Louis. Both these writers maintain, in accordance with the teachings of their predecessors, the entirely arbitrary doctrine that some of the most important pathological processes of the skin are but the expression of *diatheses*. They recognize accordingly, among others, a diathesis dartreuse or herpetic, which manifests itself upon the skin, they say, by lesions differing in their elements, not contagious, often hereditary, reproducing themselves in a nearly constant manner, accompanied by itching as their subjective symptom, disposed to spread, chronic in their course, and healing without scars, though sometimes attended by ulceration. In this class they include lichen, eczema, psoriasis, and pityriasis. Eczema is a moist dartre, psoriasis is a dry dartre. Now it is perfectly proper to invent a general name in an artificial system of classification, and to group under it as many affections as their common appearances will allow, but it should always be remembered that such systems are founded upon resemblances, and not upon affinity in anatomy or pathology. Such systems may be excusable, perhaps, on the ground of convenience, however unscientific, but they should never be allowed to influence us in our judgment of the real nature of the diseases included under them. We have no evidence of the existence of any such vice of the economy as this so-called dartreuse. We might invent twenty imaginary diatheses, and no one could prove their impossibility; but it is entirely unphilosophical to apply an arbitrary name to a group of distinct pathological manifestations, and then explain their occurrence by the very ideal cause of our own creation. Bazin goes still further, and to the scrofulous, syphilitic, and dartreuse he adds a hypothetical arthritic diathesis, which with him plays an equally important rôle with the dartreuse in the production of cutaneous affections, so that instead of one eczema and one psoriasis, we now find well-marked forms of each described under separate divisions in his books. Processes such as rheumatism and gout being well known, we can attach some meaning to the so-called arthritic diathesis, although there is no possible connection between them and psoriasis; but most of us are not the possessors of a physical sense which recognizes the existence of a dartre.

Yet both these authors have contributed in certain directions important additions to our knowledge of skin diseases, and Hardy's book is marked by a broad simplicity in description and classification, which would make it a very valuable manual, as far as it goes, for the student, were it not for

this unphilosophical system of diatheses. In respect to therapeutics, like all modern French writers on these diseases, it is very deficient in practical detail, without which directions for treatment are of comparatively little use. It is not enough to say of a remedy that it is good as an application in this or that affection; it is also necessary to state particularly in what stages it should be used and in what manner applied, for that which in one stage may be very beneficial, may in another of the same affection produce no effect; and what is easily borne in one, may in another of its phases aggravate rather than benefit. It is only by the most minute attention to this detail that many of the most common and harassing skin diseases can be successfully treated, and no book is all that it should be in this important particular without such discrimination in its therapy.

Baudot's book is written confessedly in support of Bazin's peculiar doctrines, and therefore represents the most extravagant views of the modern French school upon the inner nature of cutaneous affections. The pupil's book is better than his master's, because more concise, and therefore more valuable to the reader who feels bound to make himself familiar with all the phases of dermatology; but he will look in vain for evidence of work in the right direction, such investigations as science now requires shall be carried out in all departments of medicine, conducted by the exploring senses and for the acquisition of truthful data. Mere intellectualism, unsupported by such kind of research, which results either in compilation, or worse, theorizing, will no longer, we trust, be accepted as fit qualification for authorship.

As with the English journal, so we must look upon the French as an index of the present state of dermatology in France. The *Annales de Dermatologie et de Syphiligraphie*, edited by Dr. A. Doyon, is a bi-monthly, and has just finished its second year. It bears upon its title-page a long list of "collaborateurs," most of whom, however, are distinguished for their knowledge of syphilis, and among the thirty-four names but four only are well known as dermatologists. As was anticipated, therefore, it has been almost wholly devoted to syphilography, and in relation to this branch alone has anything new or very valuable appeared in it. In the last volume there is but a single article which has a bearing upon diseases of the skin. The editor is the translator of Prof. Hebra's work into the French, and his management of the journal has been free from all sectarianism or national prejudice. Its perusal only too sadly confirms, however, what we said above of the complete stagnation of dermatology in France.

Where, then, shall we find that progress in dermatology commensurate with the immense advances which the last few years have recorded in the history of other special departments of medicine? It exists; and if we turn to the home of modern medical science we shall find that in this field, too, there has been no lack of workers. Germany has had even in past times not a few independent observers, whose works never exercised the influence upon the medical world in general to which they were entitled, for want of translation, among whom may be mentioned Fuchs, Simon, and Bärensprung. It was not until the intelligence began to spread, slowly borne by word of mouth from country to country, that in an imperial city of Germany there was a man teaching skin diseases as they had never been taught before, with unlimited means of clinical illustration, with the keenest eye for observation, with an unbounded amount of information drawn from many years of experience, with a self-restraint which no desire for premature

fame could tempt into hasty publication, and with a sound and logical mind—that the German school of dermatology, some fifteen years ago, began to be known, and to advance to that pre-eminent position it now holds. Since that beginning, Prof. Hebra's book has been given to the world in part, and his doctrines, now familiar to all, are almost universally accepted with that credence and respect which only a great master can command. Its scientific and sensible system of classification, its simplicity of nomenclature, its brief and lucid description of diseases, its exposure of false theories both professional and popular, and its admirably clear and minute directions for treatment, make it, with its unparalleled wealth of original observations, a work which must long remain the first and greatest on dermatology. It has left, however, comparatively little to be done in the same line of clinical study by the many shrewd students whom its renowned author has created, and their craving for fresh fields of research has led to the development of a new science, so to speak, by them, which will largely form the dermatology of the future.

Prof. Hebra's system of classification is founded, as is well known, on a pathological-anatomical basis, and in accordance with the doctrines of Rokitsansky's school. In the introductory chapters of his work, which was revised by himself for the English translation only four years ago, he states that he has found no reason to change this scheme first proposed in 1844, although his experience has been enlarged by the observation of more than eighty thousand cases of cutaneous disease since that time. "Not," he says, "that by any means I wish to declare my system free from faults, or that hereafter no better one can be devised, for I know only too well its failings and defects. It has, however, according to my conviction, the preference upon the ground that, being according to art (*künstliches*), it is still not artificial (*gekünsteltes*), and although it is no natural one, still it must be called one conformable to nature, inasmuch as it arranges together the skin diseases corresponding to each other in point of nature and character, and undertakes no arbitrary separation of allied affections." His twelve classes represent no doubt all the possible pathological processes of the skin, but one or two are certainly superfluous, and others may yet have to be redistributed, when the discoveries of very recent observers in this field of pathological anatomy shall have been more fully confirmed. The system, as it stands, is comprehensive, and represents the general or gross views of the renowned founder of its school, but it gives us but little insight into the minute or real nature of many of the processes it recognizes. But pathological anatomy, under the more searching and minute system of investigation introduced by Virchow and his school, has become quite a new science of late years, and a system of classification based upon it must necessarily conform to the developments made since Rokitsansky wrote.

Although Simon's book was published twenty years ago, and was written with special reference to the anatomy of skin diseases, the methods of investigation at that time were so incomplete, compared with those of to-day, that it gives us very little definite knowledge except with regard to the gross character of the pathological changes of the tissues involved. It is only within four or five years, and since Prof. Hebra last wrote, that the new way of studying morbid growths, by fine sections of the parts *in situ* and by the aid of various artificial processes, has been applied to cutaneous pathology, and has enabled us to approach the true basis of this system of classification. Hereafter it will not suffice to say of some of the most common and im-

portant affections of the skin that they are "exudative" processes, for example. That term has hitherto conveyed a very general and indefinite meaning, applicable rather to gross appearances and characterized by certain forms of efflorescence, whereas we have known little or nothing of the anatomy of the individual lesions we have referred to as establishing the anatomical character of the general process thus named. It is evident, therefore, that we cannot speak of the anatomical nature of such a process as exudation, until we first have made ourselves familiar with the nature of the individual lesions or surface appearances, and then of the other changes of all the tissues which accompany the special disease of the skin included under such class.

To the acquisition of such knowledge many of the younger dermatologists of the Vienna school especially, satisfied, as we have said, that in the way of clinical observation their leader has left them but little to do, have largely devoted their time of late, and the fruits of their labours are already apparent. It is to the consideration of these investigations, which may be said to constitute modern advance in dermatology, that we purpose to devote most of the rest of this article. These may be found published in three different forms, namely: incorporated in some general works on skin diseases lately published; in certain journals and proceedings of societies; and in monographs. We have already said that Dr. Fox, in his recent volume on eczema, had made mention of certain of these investigations connected with the pathological processes of that affection, but the only book which has given them general consideration is that written by one himself a worker in this field of research—Dr. Neumann, a former assistant of Hebra, to whom the book is dedicated. As might be anticipated, therefore, its doctrines are mainly those of his distinguished teacher, although published in a condensed form. It is on this account and for two reasons especially valuable: first, because half only of the great work of Prof. Hebra has yet appeared, and his views in relation to a large and important portion of skin diseases will remain unknown, therefore, to the profession generally, for an uncertain period in the future; and secondly, when finished it will be so comprehensive and inaccessible to general practitioners, that a condensed *résumé* of his views will be greatly needed. The book is divided into a general and special portion. The first contains a description of the anatomy of the skin and its appendages, of the various forms of eruptions or lesions it exhibits, and chapters on diagnosis, etiology, therapeutics, and classification. In the second or special portion the individual affections are arranged under the twelve classes of Hebra, and described in a simple and condensed style, but yet, with some exceptions, at sufficient length to answer the purpose of a text-book for the student and a handbook for the practitioner.

Since writing this, the second edition of Dr. Neumann's book has appeared, increased from 352 to 407 pages, and enriched by many wood-cuts, numbering in all sixty-six, most of which are beautifully executed figures, drawn from the microscope, of sections of the skin in its various diseases. It is this feature which distinguishes the book from all others, and forms so large a part of its value. The new matter relates mainly to the minute anatomy of the skin in health and disease, and it may be considered the only book which in any way represents our present knowledge of this essential part of dermatology. But, although the author has published in full detail his own special investigations, he has not, we think, given us as full or as general a description of the labours of others in this direction

as the importance of their observations in many cases deserves, or as we should have expected. For a satisfactory account of these, we must refer, therefore, to the original and various sources of publication. Some portions of the book have been rewritten, but the changes generally are more verbal than material. More might have been done, also, in amending some of the marked faults of the first edition; several important affections receiving by no means their due share of attention, while others are proportionally overdone, for a manual of its size and aim.

The author throws aside Hebra's classification, which he followed in his first edition, and introduces one of his own, which he considers a simplification of his master's. It consists of nine classes: 1. Anomalies of secretion. 2. Inflammations. 3. Hemorrhages. 4. Hypertrophies. 5. Atrophies. 6. New growths. 7. Anomalies of pigment. 8. Neuroses. 9. Parasites. The difference between the two is mainly in the substitution of the term inflammation for exudation, and which is made to include the first and fourth of Hebra, hyperæmiæ and exudationes. This renders necessary a different arrangement in the order of diseases in the two editions, but no marked change in their text; because whether we call this great group of affections inflammations, exudations, or catarrhs, matters little, until the questions relating to their morbid anatomy, now the subject of such radical discussion, are answered in some definite way, by the numerous investigators at work upon them.

The chapter on senile changes of the skin contains much of novel interest. The author recognizes several forms of retrogressive metamorphosis exhibited by the cutis. First, a fine and a coarse granular degeneration, scattered throughout, and taking the place of the fibrous tissue; the former giving a milky and turbid, the latter a greenish-yellow appearance to sections beneath the microscope. The second form he calls vitreous degeneration. The fibrous bundles of the cutis become entirely invisible, and are converted into a homogeneous mass resembling solidified glue. Nerves, vessels, and other structures of the skin disappear, and the whole cutis is shrunken and brittle. This change has been called hyaloid degeneration by O. Weber, and according to him it begins in the epithelial cells of the arteries. Subsequently the whole vessel becomes homogeneous and narrowed, and the process then affects the other tissues. The same change had been observed in the base of indurated chancres, and in the tissues of elephantiasis Græcorum, and accompanying a case of so-called amyloid degeneration described below. It occurs in the face skin of most persons after the age of fifty. Accompanying these changes in the cutis, which are unequally distributed according to locality, the epidermis and its appendages likewise, are affected in a variety of ways, wart-like excrescences and horny transformations of its cells being observed. The fall of the hair is attributed to the degeneration of the papillæ, and the insufficient epithelial production. The hair-follicles shrivel up in their lower portions, and are converted above into mere outlets for the sebaceous glands.

The amyloid degeneration above spoken of was observed, according to Neumann, by Lindwurm and Buhl, in a unique case of hypertrophy and ulceration of the skin. The whole surface of the patient, a man of fifty-four years, was covered with a variety of efflorescences; small and large red spots, capped with scales; little and great wheals, somewhat elevated and red, also covered with scales; red papules thickly strewn upon infiltrated patches of skin; wart-like excrescences and rough epidermal

growths; and ulcers of various sizes scattered over the body, made up a picture which in parts resembled several distinct affections, pityriasis, psoriasis, lichen ruber, ichthyosis, &c. An examination showed a great hypertrophy of the papillæ, not only elongation, but increase in size laterally, as if many were compressed to one. The capillaries were also greatly enlarged, and exhibited lateral projections. The most important discovery, however, was in the substance of the papillæ. These were filled with shining bodies, 0.008–0.01 mm. in diameter, arranged either in layers or without order. Their appearance and reaction with iodine and sulphuric acid left no room for doubt that they were to be considered so-called amyloid bodies. Beginning at the base, they reached their greatest number and size at the swollen summits of the papillæ. This discovery can hardly be looked upon as in any way pathognomonic of the gross and varied surface appearances in this peculiar case, but it is very interesting as establishing the possibility of a tissue-change in the skin, of general distribution, never before observed.

As above stated, we must refer to the original sources of publication for a satisfactory account of many similar discoveries in the morbid anatomy of the skin, which are too briefly alluded to in Neumann's book. Among these sources is first to be mentioned the *Archiv für Dermatologie und Syphilis*, published quarterly for the last two years by Drs. Auspitz and Pick, the former teacher in the University of Vienna, the latter at Prague. The great value and success of this journal were assured at its start by the character both of its editors and the distinguished specialists associated with them as collaborators, among whom may be mentioned Biesiadecki, Boeck, Hallier, Hebra, Köbner, Kohn, Landois, Neumann, Reder, Sigmund, Wertheim, and Zeissl. The promise which such names offered has been fully sustained during its existence, and articles of very great importance, by most of these observers, have appeared in its pages. But, in addition to such original contributions, it has presented in each number a review of the progress of dermatology and syphilis in all countries, arranged under appropriate divisions; so that one has only to consult its pages to inform himself of the latest advances in these kindred departments. Its management deserves the highest praise, and were it generally accessible, or published in our own language, the necessity of such articles as this in general periodical literature would cease to exist. In it may be found an account of much of what follows, relating to our subject.

Another very valuable repository of contributions to the literature of modern dermatology are the *Sitzungsberichte der kaiserlichen Akademie der Wissenschaften* (proceedings of the Vienna Academy of Sciences). In these have been published the observations of one of the most zealous workers in this new field of research, Dr. Biesiadecki, formerly of Vienna, now of the Krakauer Pathological Institute. Not only his own researches in connection with the anatomy of the skin in health and disease have appeared in these, but those also of several of his pupils, our own countrymen, made under his direction, upon the morbid anatomy of certain affections, to be mentioned hereafter. *Virchow's Archiv* has also contained many valuable articles in the same line of investigation during the past few years.

From among these we shall select for notice those which throw most light upon the formation of the various structures of the skin in health, and the changes of its elements in disease; and it will be seen that our knowledge of each division is aided by the study of the other; and that

so little is yet established, even with regard to the former, that it is impossible to carry on investigations concerning it, without the suggestions derived from observation of its pathological modifications. Thus it will be impossible to consider them separately. It will be found, too, that the pursuit of these investigations leads into the region of questions which are foremost in the discussions of modern general pathology, and that, therefore, a wide difference of opinion prevails with regard to some of the phenomena recorded by the various observers.

In one of the most noteworthy of these contributions,¹ Dr. Biesiadecki, in an article on the structure and self-productive power of the healthy epidermis, publishes the following conclusions, as the result of the examinations, there detailed: 1. That the formation of epidermal scales from the cells of the mucous layer begins with the shrinking of the nucleus of the latter. 2. That the mucous layer, besides the epithelial cells, possesses others more like the cells of fibrous tissue. 3. That these cells, originating from the tissue of the corium (wandering cells of Recklinghausen, leucocytes of Cohnheim), penetrate the mucous layer; and 4, that the youngest cells of the stratum Malpighii are developed from a nucleolated protoplasm belonging to the corium.

With regard to the pathological anatomy of the skin, he gives in the same article his observations upon several of its affections, and some of the most characteristic cutaneous manifestations of syphilis. In erythematous and phlegmonous *erysipelas* he found the whole cutis and subcutaneous cellular tissue infiltrated with cells, the two forms differing only in the greater abundance of these cells in the latter. All the layers of the corium and adipose tissue are filled with these cells, which resemble in shape and size the white corpuscles of the blood, and possess a protoplasm so filled with granular matter that the simple nucleus is scarcely visible. The fibrillæ of the fibrous tissue, within which these cells are most thickly imbedded, lose their sharp contour, increase in thickness, swell up, and change into a homogeneous mass. In this way an abscess is formed, situated generally in the tips of the papillæ. The individual fibres are pressed apart also by a fluid which permeates the tissues uniformly in addition to the cells. In the infiltrated portions of skin the bloodvessels are enlarged and their walls are sharply defined, while in the neighbourhood of the abscess their contour becomes lost, and a brown mass of altered blood only marks their course. The epidermal cells, in contact with the papillæ, and around the hair-follicles, are swollen by infiltration, while those of the outer layer of the sebaceous glands are enlarged, and the inner are converted into a pulpy mass. From these observations he concludes that in every *erysipelas* we have not only serous infiltration of the corium, as previously believed, but at the same time an abundant production of cells, which penetrate even the subcutaneous tissue, and thus explain the distension of the skin. The production of cells seemed to be no more active in the immediate neighbourhood of the bloodvessels than remote from them.

Passing by his interesting investigations upon the histology of syphilitic induration and condylomata, we come to his observations upon the formation of papules and vesicles in *Eczema*. Here the papillary bodies are the chief seat of the affection. They are found in circumscribed parts, widened and elongated in consequence of an infiltration into them

¹ Sitzungsberichte, vol. lvi. part 2.

both of cells and a clear serous fluid. Their fibrous tissue-corpuscles are also both enlarged and increased. The bundles are, moreover, pressed apart and swollen. The mucous layer above the papillæ is also affected. Numerous spindle-shaped cells are seen, partly within the latter, partly penetrated between the deepest cells of the rete mucosum. They press forward even to the horny layer. Between two papillæ, and within the mucous layer, these cells often form a thick network, penetrating it in various directions, within which the epithelial cells are found swollen. This circumscribed infiltration of the papillæ and mucous layer forms the eczematous *papule*. In the process of its transformation into a vesicle, the new cell formation within the papillæ increases, and the superficial cells of the mucous layer become considerably swollen, and perhaps burst, so that the epidermis above them is lifted up. The cells of the middle layer are still more distended, or clouded as if filled with dust, and their enlarged nuclei are scarcely discernible. The spindle-shaped cells, which are supposed to act as juice-canals for the nutrient matter of the mucous layer, are found in increased numbers and thickened, and form a dense network within it. With the greater abundance of these cells, a more profuse quantity of the fluid which penetrates the papillæ is carried to the mucous layer, and at times in such excess as to elevate the epidermis in the form of a *vesicle*. In case the epidermal covering is removed, the fluid oozes out upon the surface of the mucous layer, and we have a moist eczema. It is through the medium of this network of spindle-shaped cells that exudations within the papillæ are enabled to penetrate the mucous layer and reach the surface.

The formation of vesicles has, since this article was published, been further investigated by Dr. Biesiadecki, and by Dr. Haight, of New York, under his observation, and the results obtained by them may find most appropriate mention in this connection. In the *Sitzungsberichte*,¹ the former communicates his observations on this process produced by burns of the skin. Here, too, even in scarcely visible elevations, the papillæ were found broader and longer, and the bloodvessels enlarged. Above them the epidermis was elevated, and on its inner surface was attached a layer of shrivelled epidermal cells, while between it and the exposed upper surface of the corium were stretched thin threads. These threads were of the same breadth and shape throughout their entire length, and exhibited by the strongest magnifying power nothing resembling elongated nuclei. They were less numerous between the epidermis and the points of the papillæ than in the depressions between the latter. Where the epidermis was elevated by a more abundant serous exudation, there were seen upon its inner surface, as well as upon the upper surface of the exposed corium, numerous such threads torn apart and extending into the cavity of the vesicle. Between these threads there occur also club-shaped, cell-like objects, attached by means of long and thin projections to the papillæ, and containing a more or less easily recognizable nucleus. It appears, then, that in burns of the first degree, when the heat is applied to the skin the bloodvessels of the part are first enlarged, which is followed by an almost instantaneous serous exudation. This exudation penetrates the tissues of the cutis and reaches the mucous layer, where the epithelial cells, which are firmly attached to the upper surface of the corium, are drawn out and finally elongated to thin threads, in which the former nucleus is perfectly invisible.

¹ Vol. lvi. part 2.

This happens all the more easily, as the exudation cannot penetrate the horny epidermal layer which is composed of flat cells, but must lift it up, and inasmuch as the youngest cells of the stratum Malpighii are quite firmly attached to the corium, they are pulled out lengthwise more and more by the rising epidermis. The following conclusions are drawn from these observations: 1. That the cells of the stratum Malpighii take no active part in the formation of vesicles, inasmuch as it is impossible that, by any active process within themselves, the cells can elongate themselves to the point of laceration. 2. That the cells of the stratum Malpighii are favourable to osmose. 3. Such a change in the cells implies that they still consist of a soft and yielding kind of protoplasm, on which account only the lower layer of cells is thus affected. How far this substance after death is capable of undergoing similar changes can only be determined by examination of blisters found upon the cadaver. 4. This investigation teaches, as is known, that vesicles, like pustules, may be divided into compartments, and that the partition-walls are composed of epithelial cells.

These investigations concerning the structure of the vesicle are confirmed by others, made and published in the same volume of the *Sitzungsberichte*, by Dr. David Haight. He examined the vesicles of herpes zoster, of erysipelas bullosum, of pemphigus, and sudamina. In the former they were separated by these bands of elongated cells into numerous compartments, according to the number of papillæ included, and the thickest of these bands, or seeming columns, always arose from the depressions between the papillæ. In connection with the pathology of zoster, Dr. Haight's observations, relating to the nerve-tissues of the skin, are very interesting. The wandering cells within the subcutaneous cellular tissue were collected in great numbers about the nerves there located, and the nerve-fibres themselves were swollen, the medullary substance dissolved, and the axis cylinder excentric. In erysipelas the vesicles had the same structure as in herpes. In pemphigus the blisters were simple, their cover being composed of the uplifted horny layer, while their base consisted of somewhat elongated cells of the stratum Malpighii, above which flat and nucleated epithelial cells were laid. In sudamina, on the other hand, both the roof and the base of the vesicle consisted of horny, unnucleated, epidermal cells. Dr. Haight's paper is most beautifully and clearly illustrated by plates of his microscopic sections, the artist being Dr. Heitzmann, to whom we are also indebted for the illustrations which accompany all the other articles published in the proceedings of the Vienna Academy, mentioned below, as well as for the excellent illustrations in Neumann's books.

How papules and vesicles are converted into pustules we shall learn by returning to the first-quoted communication of Dr. Biesiadecki. The process in herpes zoster is first indicated by an increase in the number of the new cells throughout the papillæ, corium, and cellular tissue beneath. The bloodvessels within the papillæ are still further enlarged and crowded with corpuscles. The spindle-shaped cells shoot out from the papillæ into the mucous layer in greater number than in the vesicle, and the epithelial cells are forced apart by a mass of round cells, compressed and made to assume a position perpendicular to the horny layer. This process is most pronounced at the edge of a growing pustule; towards its middle a still more abundant round-cell proliferation is observed, and small collections of pus are seen in the mucous layer, inclosed within the partition walls, formed from the compressed and deformed epithelial cells of the middle and upper mucous layer. The epithelial cells of the lower mucous layer, on the

other hand, take an active part in the process; they divide and are converted into mother-cells containing often several nuclei, which rest upon the depressed and infiltrated corium, forming the floor of the pustule, and extend at times into the compartment walls. From these investigations Biesiadecki draws the following conclusions:—

1. With regard to these cells which are found at times between the epithelium of the normal mucous layer, that when this layer is increased in size, as in the pointed condylom, they are found much more abundant and possessing numerous projections which anastomose with each other. That in acute processes, like eczema and herpes, they reach the mucous layer in increased numbers, and often form a thick network, penetrating as far as the horny layer. Further, that in the formation of pustules, these cells, in consequence of the abundant proliferation, force the epithelial cells of the mucous layer apart, which form the meshwork of the pustule. 2. In confirmation of the opinion that the youngest cells of the mucous layer are developed from the corium, he cites the ulcer in syphilitic induration, in which there is a gradual transition of the cells which cause the infiltration of the papillæ to the epithelial cells of the mucous layer, and the circumstance that, in all cases where thickness of the mucous layer results, an abundant cell-formation in the corium takes place. 3. Although, according to this view, the mucous layer receives its growth from the corium, it can also, by a division of its own cells within the middle layers, increase in thickness, as in the pointed condyloma.

In a communication to the Vienna Academy during the past year, it appears that Biesiadecki has carried his investigations upon the formation of vesicles still further, and made the regeneration of the epithelium a special study upon the web of the frog. The results are very interesting as bearing upon the question, now so much discussed, of the mutual relations of the epidermis and corium. These experiments show that this regeneration takes place in different ways and at different periods, according as the mucous layer is wholly or in part only removed from the corium, and whether the circulation of the latter is more or less disturbed. If the lowest row of epithelium is left over the corium, it is, in the majority of cases, removed by the exudation, although the cells occasionally remain in contact with the corium, and are finally converted into epidermal cells. If the whole mucous layer is removed from an uninjured corium, there follows in a few hours an inflammatory stasis in the latter, and about the sixth hour the *white corpuscles*¹ wander out from the bloodvessels, first into the tissues of the corium, and later out upon its upper surface. At first it appears as if the cells were about to remove themselves from the corium, for they rapidly change their form, and remain attached to it only by means of a thread. They soon, however, spread themselves over the corium, become inactive, while their protoplasm appears more transparent and exhibits an oval nucleus within. In twelve hours the whole epithelial gap is covered with a row of such cells, which appear to be closely pressed together. Subsequently, this first emigration of cells is elevated by new ones deposited beneath them, and appears to be stiffer, more sharply defined, and somewhat flattened. In twenty-four hours many rows of these cells are to be seen, elevated in a prominence above the surface of the skin. At this period pigment-cells are to be found between the new-formed cells, which have penetrated thither from the neighbouring mucous layer, although they appear also to ascend thither from the underlying corium.

¹ It will be observed that Dr. Biesiadecki here, for the first time, makes use of this term to designate what, in his previous communications above noticed, he has called round and spindle-shaped cells, thus accepting their origin.

If it should happen that an air-bubble comes in contact with the cicatrizing surface, and we should attempt to remove it by a drop of fluid, the departing bubble will often pull the cells out into long threads, in the same way as, in burns of the human skin, the rising epidermis pulls out the lowest epithelial cells into long threads within the vesicle. If the whole mucous layer is raised off the corium, and an extensive stasis of the blood follows in the latter, a necrosis of the exposed corium ensues, and on the seventh day demarcation is evident, and on the tenth the dead tissue is cast off. If the epidermal covering of the blister is not removed, its fluid contents, at first clear, become turbid by the collection in it of fat, light brown pigment-granules, and exudation-cells. The epithelium of the cover also contains fat-granules, while its pigment-cells send out numerous projections, which anastomose with each other and surround nearly every epithelial cell. In the neighbouring corium there are found, in consequence of collateral œdema, round or oval cavities containing a clear fluid, which might pass for enlarged lymph spaces or vessels. These are among the latest observations upon the regeneration of epithelium.

These relations of the cuticle to the papillary structure have received a new interpretation in an article of great interest and originality by Dr. Auspitz, of Vienna, in the *Archiv. für Dermatologie*, of which he is one of the editors. In opposition to the common belief that the papillary layer is formed by the shooting out of projections from the cutis, around which the epidermal cells group themselves, or by nipple-shaped outgrowths into the already-formed Malpighian layer, he ascribes to the latter the active rather than the passive part in the process, and maintains that the papillary boundary of the cutis is produced by the epidermis pushing forward conical projections into the opposing cutis. In support of this view, he offers the following reasons drawn from the study of the embryological anatomy of the skin: 1. The development of the epithelium of the skin and mucous membrane takes place entirely independently of that of the fibrous tissue, nerves, and vessels. 2. The formation of the papillary layer in the embryo begins at a period when the epithelium is already fully formed and arranged as in adult life, and when well-developed fibrous tissue and vessels distended with blood-corpuscles have existed for a long time. 3. The completely-formed epithelium grows into the fibrous tissue (mostly fibrous from the third month of embryonic life) in the form of projections, and forms thus the glands and hair-follicles. 4. In adults also, in certain cases, a pre-existing epithelial layer undergoes further development within the cellular tissue. Dr. Auspitz then goes on to consider the relation of the epidermis to the papillary layer in pathological conditions, for aid in the solution of this question, and as the result of his detailed investigations, gives the following conclusions:—

1. In hyperæmic and inflammatory processes of the skin, succulence and swelling of the papillæ only result, but a real change in their form does not take place until after secondary changes in the Malpighian layer have been developed.
2. The same rule applies in case of simple and lymphatic hypertrophy of the stroma of the fibrous tissue, and in cellular infiltration of the cutis.
3. In keratoses or anomalies of the horny layer (corns, cutaneous horns, ichthyosis) there is either no change in the form and size of the papillæ, or it is caused by the pressure of the hypertrophied horny layer. The prismatic and columnar forms of the latter do not depend upon the papillæ of the cutis.
4. Papillomata (warts, condylomata, epitheliomata) are the result of an active process in the rete, as their character shows, in consequence of which a growing of the hypertrophied Malpighian layer into the equally more or less

hypertrophied stroma results. The papillæ take but a passive share in the process, their elongation, as well as their dendritic shape, being produced by the hypertrophy of the epidermis, while the elevation of the whole surface of the skin is the result of the hypertrophy of both epidermis and stroma. 5. Spontaneous out-growths of the fibrous tissue upon the skin sometimes occur (as upon the mucous membrane), but depend, like the latter, as little upon the pre-existing papillæ as does the papillomatous form of epidermal covering which often occurs upon such fibrous tumours. 6. A real anatomical distinction between the individual forms of the papilloma, wart, pointed condyloma, and cauliflower excrescence does not exist, and the syphilitic condyloma differs from it only in the specific cell-infiltration of the cutis. 7. The epithelioma offers an exquisite type of the hypertrophic epidermal in-growth into the stroma of the fibrous tissue. 8. The results of examination of the morbid conditions of the skin agree perfectly with those afforded us by the skin and mucous membrane in their physiological state, and by the history of their development, so far as it is within our reach.

Intimately connected with this interesting theory, which has, of course, met with opposition, and upon which rests a burden of proof by no means wholly raised by Dr. Auspitz in his article, is the special question of the development and independent power of repair of the epithelium. Concerning this, histologists and the younger dermatologists have been especially busied within the last two years, and a very wide difference of opinion still prevails among them. Some maintain that the new growth of epithelium proceeds directly from the fibrous-tissue corpuscles of the stroma; others, that it results from the escape of the white-blood corpuscles from the vessels of the cutis, their conversion into and deposition as epithelial cells; others, that they are formed directly from the nucleolated epithelial cells by division, and endogenous cell-production; others, from a sort of germ-layer, situated between the epithelium and stroma of a plastic or granular character. The theories of two observers only will be here mentioned, in addition to the account of Biesiadecki's, above given.

Prof. Arnold, of Heidelberg, published in *Virchow's Archiv* for 1869 an account of a series of experiments undertaken by himself upon the skin and mucous membrane of dogs and frogs for the purpose of solving this question. He arrives at the following conclusions, which were satisfactory to himself at least: First, with regard to some of the opinions above mentioned; that the regeneration of epithelium proceeds either from the fibrous tissue, or from pre-existing epithelial cells. If it depends upon the former, it would necessitate the existence of small cells containing a nucleus, which would present the type of so-called formative cells, whereas not a trace of such exists. Just as little are processes to be discovered in connection with the epithelium situated at the epithelial border, which indicate a division either of the substance of the nucleus or the cell. With regard to the amœboid cells, they were observed by Arnold to issue from the mucous layer, to undergo various modifications of form, and to tarry at the edge of the epithelium for a long time, without attaching themselves to it. A transformation of these wandering cells into epithelium, either in the process of physiological or pathological regeneration, he considers, does not take place, inasmuch as they undergo no such metamorphosis as would give them the character of epithelial cells. According to him, regeneration under pathological conditions goes on in the following manner: In places which have been robbed of their epithelium, the gap thus caused is filled either entirely, or at its periphery, with a finely granular substance, which appears cloudy, and by a strong magnifying power is seen to consist of molecules. At points where the epithelial formation

begins, this is changed into a glassy material, which may be called protoplasm. In this phenomena of segmentation appear, and in parts thus furrowed, shining bodies show themselves, which later are surrounded by circular borders, until finally a positive nucleus appears. Thus are found, at the end of the process, small, granular, epithelial cells, containing still weakly defined nuclei, the subsequent metamorphoses of which are granulation of their contents, a more marked defining of the nucleus, and a growth of all the parts. In this way the formation of a layer of epithelial cells takes place, beneath which the same process is repeated, so that the youngest forms are always found in the deepest layers, directly upon the mucous layer. Inasmuch as Arnold recognizes the presence of the wandering cells in increased numbers during this process in the midst of the protoplasm and granular matter, and especially where the process of segmentation begins, he attributes to them the power of exciting the phenomenon. As to the source of this granular matter, which, of course, underlies the question of the independent regeneration of the epithelium, he is inclined to credit any of the other tissues with its production before the pre-existing epithelium, inasmuch as a new growth directly from the surface of the fibrous tissue is possible, although he will not deny the pre-existing epithelium a participation in the process.

On the other hand, and in opposition to the views of Thiersch and Arnold, we find in Dr. Pagenstecher also an earnest advocate of the doctrine that the wandering cells are converted directly into epithelium, not by independent action of their own, in which case granulating surfaces, where they abound, would be skinned over without the aid of pre-existing epithelium, but by some mysterious contact-action, or epithelial infection, as he expresses it. In the same way that the cells of malignant new-growths are believed to convey infection to cells hitherto unaffected by contact, so he believes that direct contact with epithelial cells is necessary for such transformation on the part of the wandering cells, and that Thiersch would have been justified by facts, if he had concluded that epithelium exists only when it can be developed in closest contact with already existing epithelial formations. In the *Sitzungsberichte*, vol. lvii., part 2, may be found the details of his experiments and the following conclusions:—

1. That these cells are found increased in all chronic processes accompanied by increased epidermic formation. 2. The same cells are found in the epithelial collections (balls, cylinders) of epithelioma. 3. They enter the stratum mucosum of the skin from the corium by independent motion. 4. In proof of the transformation of the wandering cells into epithelium, we have—*first*, their increase wherever an increase of epithelial cells occurs; *second*, want of evidence of their destruction, or of their organization otherwise, or of their transformation into pus; *third*, the want of evidence of any other method of the formation of epithelial cells; and *fourth*, positive proof of the transitional forms between them and the epithelial cells.¹

It will be seen, then, that, with this very wide difference in the opinions of observers and experimenters concerning these interesting questions, the opinions of non-observers in the matter can be of little importance. They must still be considered unsolved and open questions, the most plausible solution of which, nevertheless, it seems to us, is the doctrine of the constant escape of the white corpuscles, their transformation into epithelial cells, and their no less important share in the modified processes of the diseased skin.

¹ See Biesiadecki's latest observations, *supra*.

In connection with these investigations of Dr. Biesiadecki, may here more particularly be mentioned the valuable contributions already alluded to of some of our own countrymen while studying under his direction in the institution of pathological anatomy in Vienna. These, although more particularly concerned with the changes of the skin in individual diseases, and therefore possessing less general interest than the widely applicable results of the histological studies of their teacher, have a merit additional to their intrinsic excellence. This is a field hitherto untrod by American workers, and the example of independent investigations in it by our own men, especially when attended by such meritorious results, cannot fail to be of great service to our students at home. Dr. Haight's observations upon the formation of vesicles in certain affections and upon the changes of nerve-tissue in zoster have been already noticed. In the *Sitzungsberichte*, vol. lvii., part 1, is an interesting article by Dr. William Young, also of New York, on the anatomy of œdematous skin. The conclusions he draws from his examinations are, that in this condition the fluid which causes it is found in cavities bounded by bands of fibrous tissue as well as by the single cells and fibres of the same; that these cavities occupy no particular position, and possess no boundary membrane composed of epithelial cells; that such cavities, moreover, are traversed by canals which are circumscribed either by epithelium alone or by a union of this and an elastic network. He believes that in the normal skin such cavities exist between its fibres filled with fluid which become distended in œdema; and that they are pre-existing lymph-cavities connected in some undiscovered way with the regular lymph-canals. As a possible means of such communication, he calls attention to the larger stomata existing between the epithelium of the lymph-vessels in comparison with those of the blood-vessels.

Dr. William W. Geddings, of Aiken, S. C., contributes to vol. lvii. of the *Sitzungsberichte* his investigations upon the anatomy of lupus erythematosus. In character the pathological changes in the tissues in this affection do not differ from those which are seen in lupus vulgaris, but Dr. Geddings discovered an anatomical difference in the seat and beginning of these tissue changes, which explains the dissimilarity in the gross appearances and clinical history of the two diseases, and confirms the views first adopted by Hebra concerning its nature, and justifies the name he first gave it, *seborrhœa congestiva*. A study of its anatomy shows that it takes its origin from the sebaceous glands, the bloodvessels surrounding them being found enlarged, in consequence of which serous exudation in the neighbouring cellular tissue ensues. As the disease progresses, the hyperæmia and exudation extend along the hair-follicle into the papilla, whereby the surface changes are produced. Cells are next observed, at first about the enlarged sebaceous glands, and then around the hair-follicle and in the papillæ, above which the stratum Malpighii and epidermis increase in thickness, and over which the latter remains attached in the form of fatty scales. In common lupus the anatomical changes do not start from the sebaceous glands, and are never more marked there than elsewhere. Dr. Geddings' valuable investigations will be found in full, together with some later observations and an interesting clinical history of the affection, in an article upon it in the July number of this Journal for 1869. In the *Archiv für Dermatologie und Syphilis* may also be found a valuable contribution to our knowledge of this affection, by Dr. Kohn, of Vienna.

In the same volume of the *Sitzungsberichte* Dr. J. Collins Warren, of

Boston, publishes the results of his examination of the anatomical nature of true spontaneous keloid, of so-called false keloid developed from a previously existing cicatrix, and of ordinary scar-tissue. In the development of true keloid he found in the beginning the round cells appearing in great numbers in the adventitia of the vessels of the corium, which became spindle-shaped, and were converted finally into fibrous tissue. In this way, the larger bloodvessels being surrounded by constantly growing layers of fibres, the tissues of the corium situated between them become compressed, until the bundles thus formed come in contact, and thus we have out of this compressed tissue of parallel fibres the perfectly developed keloid. This parallelism of the fibres constitutes the characteristic difference between it and the simple cicatrix, in which the scar-tissue consists of a network of fibres running in all directions. In false keloid developed from a scar, the boundary line between the two growths may be distinguished by this parallel direction of the bundles of fibres, within which the vessels are surrounded by spindle-shaped cells. A true and a false keloid are, therefore, not to be distinguished by their anatomical features. Dr. Warren attributes the malignancy, that is, the tendency of keloid to return after extirpation, to the extension of this affection of the vessels to a considerable distance beyond the apparent limits of the keloid itself.

The last and latest of these contributions of our native students at the Vienna school to modern dermatology is the article of Dr. Richard H. Derby, of Boston, upon the Anatomy of Prurigo, in vol. lix. of the *Sitzungsberichte*, 1869. This is a disease fortunately of very rare occurrence with us, although, owing to the loose definition so generally applied to it in this country and England, which confounds it with ordinary pruritus of the skin, it is spoken of in books, and hospitals, and dispensary reports as a common affection. Prurigo and pruritus have in reality nothing in common but their initial letters and the itching, which in the former is only a symptom, in the latter the whole disease. In prurigo the itching arises subsequently to, and in consequence of, well-marked and characteristic anatomical changes in the tissues of the skin; in pruritus the itching precedes and gives rise to a great diversity of structural changes. Prurigo has always the same history, affects only certain regions, and is characterized by one definite and constant efflorescence. Pruritus is only another name for itching; it may affect, therefore, almost any region of the surface, and has no characteristic and constant form of eruption, but differs in each case according to the locality affected and its individual history. Its cutaneous phenomena are chiefly those produced by scratching, and are consequently the direct result of external, mechanical irritation. It is, in fact, generally no disease at all, but only a symptom of several affections of the skin. In prurigo, on the other hand, the efflorescence, which, as just stated, consists of changes taking place in the deeper tissues of the skin, is only slightly modified by the subsequent irritation it produces. Moreover, pruritus is one of the most common affections of the skin, while prurigo is so very uncommon in America that the writer has seen but three or four cases only in more than ten years' observation of skin diseases in dispensary and private practice.

This confusion in nomenclature, or rather this entire disregard for the principles of diagnosis and classification, has led some writers to place prurigo among the so-called neuroses of the skin. This is a fashionable term of late loosely applied to all sorts of cutaneous affections. A neurosis of the skin is a lesion primarily affecting nerve-tissue, and giving rise, in

consequence thereof, to impaired or modified nerve action and subsequent structural changes in the surrounding tissues, of which zoster is a type and almost the only example. Unless this definition is strictly adhered to, almost every disorder of the skin or other organs may be called a neurosis; for diseased as well as healthy vital action is regulated by nervous influence and limited by nervous distribution. But to class prurigo among the neuroses, simply because itching is one of its secondary phenomena, is an absurdity, unless we include in the same category eczema, psoriasis, scabies, etc., or, in other words, divide skin diseases into two classes: neuroses, those which itch, and non-neuroses, those which do not itch.

Our previous knowledge of the minute anatomy of prurigo was slight and unsatisfactory. The papillæ had been found enlarged, and new cells had been observed in profusion penetrating some of the cutaneous tissues, but nothing distinctive or peculiar to this affection had been noticed before these observations of Dr. Derby. From them he draws the following conclusions: 1. That in prurigo there is uniformly a disease of the hair. From the outer root-sheath projects a growth, varying in length, consisting of epithelial cells, and closely united with the root-sheath. It insinuates itself between the muscular fibres of the *arrector pili*. 2. The *arrectores pilorum* attain an unusual development. Through the increased traction these exert on the hair result, on the one hand, a more vertical position of the hair, on the other, a hernial protuberance of the inner-wall of the hair-follicle and the outer root-sheath. 3. A serous exudation takes place in the vicinity of the diseased hair, infiltrating the tissue of the corium and the papillæ, and making its appearance as a clear or slightly bloody drop on puncturing the papule.

This discovery, moreover, explains the absence of the papules of prurigo in places devoid of hair, such as the hollow of the hand and the sole of the foot; and their infrequent occurrence in places almost destitute of hair, such as the flexures of the extremities. The cells which form this projection from the root-sheath are continuous and identical with those of the latter. The hair-bulb also shows the presence of numerous round and shining cells, and the hair itself becomes thinner and is more easily pulled out.

Many other articles might be cited which would properly find a place in an exhaustive review of the researches in this new province of dermatology; but enough has been said to show the direction in which the best trained minds are at present seeking for light upon the intimate nature of skin diseases, and the sources to which we must turn for information concerning their labours. We have preferred to confine ourselves to a notice of this class of contributions, even to the neglect of much of more practical value connected with the clinical aspect of the subject; inasmuch as the latter is sure to find its way into general periodical literature sooner or later, and, as we have said, very little has been left undone in general dermatology by Hebra for German specialists to complete. Those who would know more of this progress than the limits of this article permit us to furnish, or what advance has been made in the whole field of dermatology during the last two years, will find in the *Archiv für Dermatologie* what they seek.

And what have we here at home done for dermatology during the same period? It has hardly yet found a place amongst us as an acknowledged specialty. Only in a few of our largest schools, and within the last few

years, is it taught by those particularly devoted to its study, and still more recent is the establishment of departments for the treatment of skin diseases, in connection with any of our great dispensaries and hospitals. Can we wonder, then, that America has as yet contributed little to dermatology, if our views concerning the qualifications for authorship in this branch of medicine, expressed in the beginning, are correct? We have no recent work, then, to take its place amongst others at the head of our article as a representation of an American school. We have no book on general cutaneous medicine which is the work of a large observer; no monographs containing the researches of skilled and specially trained workers. We trust, however, before long to be able to welcome the beginning of a national literature of the right kind. Many young men have come into our large cities during the last few years, trained by study and observation under the best instructors in this department in other countries, and eager for work, who, if faithful to the methods of study acquired there, and to the spirit of their teachers, will, as opportunity and experience are afforded them, bring forth independent and reliable results worthy of their masters and honourable to our country. But observation and work must precede; and we cannot look for a national literature or school of dermatology until our dermatologists are made.

These conclusions are borne out also by evidence to which we have referred in forming our judgment in respect to the other countries of which we have particularly spoken. The *American Journal of Syphilography and Dermatology* is published quarterly in New York, under the editorship of Dr. M. H. Henry, Surgeon to the Venereal and Skin Department of the New York Dispensary, and has just entered upon its second year. Although it can hardly be looked upon as representing any wider field than New York alone, yet its character fairly enough indicates the state of dermatology amongst us as a whole. But two or three original communications have appeared in it, and it has contained only a few reviews and translations from foreign journals, upon diseases of the skin. In the last number there was but a single article in any way relating to cutaneous affections. It is therefore mostly a journal of syphilography, as the order of its titles suggests. It is none the less valuable, however, on this account, and fully deserves the success with which it has been conducted. We trust that it may hereafter, as the observations of reliable and scientific specialists amongst us accumulate, become the national representative of as creditable a school of dermatology as any country can boast.

